

THAT WHICH IS CLAIMED:

- 1 1. A fixture for supporting a rotatable member having a plurality of
2 radial portions during manufacture of the rotatable member, the fixture
3 comprising:
4 a collet extending in an axial direction and defining an aperture for
5 partially receiving the rotatable member;
6 a locator device having a base and a plurality of flanges, the base
7 configured to be connected to the collet, the flanges extending from the
8 base in an axial direction and arranged circumferentially to define an
9 aperture for at least partially receiving the rotatable member in the axial
10 direction, the flanges defining slots therebetween for receiving radial
11 portions of the rotatable member such that the radial portions extend
12 radially outward from the flanges; and
13 a tool holder configured to support a tool against the radial portions
14 of the rotatable member extending between the flanges of the locator
15 device and thereby form the rotatable member to predetermined
16 dimensions.
- 1 2. A fixture according to Claim 1 wherein the flanges and slots of the
2 locator device extend helically in the axial direction and correspond to the
3 configuration of the radial portions of the rotary member.
- 1 3. A fixture according to Claim 1 wherein the flanges flare radially
2 outward by at least about 90 degrees to define a circumferential surface
3 directed in the axial direction for contacting a face of the rotatable
4 member.
- 1 4. A fixture according to Claim 1 wherein the flanges define a lip to
2 radially support the rotary device.

1 5. A fixture according to Claim 1 further comprising a rotatable
2 spindle and an adapter plate extending circumferentially around the collet
3 and configured to rotate with the collet, the adapter plate defining
4 connection features for engaging the rotatable spindle and the locator
5 device, thereby securing the locator device to the rotatable spindle.

1 6. A fixture according to Claim 1 wherein the aperture of the locator
2 device extends axially therethrough and the collet defines an aperture for
3 receiving the rotary member.

1 7. A fixture according to Claim 1 further comprising an arm secured
2 to the holder and supporting the tool, wherein the holder and the arm are
3 structured to support the tool in a predetermined configuration.

1 8. A locator device configured to support a rotatable member having a
2 plurality of radial portions during manufacture of the rotatable member,
3 the locator device comprising:
4 a base; and
5 a plurality of flanges extending from the base in an axial direction
6 and arranged circumferentially to define an aperture for at least partially
7 receiving the rotatable member in the axial direction,
8 wherein the flanges define slots therebetween for receiving radial
9 portions of the rotatable member such that the radial portions extend
10 radially outward from the flanges.

1 9. A locator device according to Claim 8 wherein the flanges and
2 slots of the locator device extend helically in the axial direction and
3 correspond to the configuration of the radial portions of the rotary
4 member.

1 10. A locator device according to Claim 8 wherein the flanges flare
2 radially outward by at least about 90 degrees to define a circumferential
3 surface directed in the axial direction for contacting a face of the rotatable
4 member.

1 11. A locator device according to Claim 8 wherein the flanges define a
2 lip to radially support the rotary device.

1 12. A method of manufacturing a rotatable member having a plurality
2 of radially outwardly projecting blades, the method comprising:
3 providing a fixture defining a base and a plurality of flanges, the
4 flanges extending from the base in an axial direction and spaced about a
5 circumference of the fixture to define a central aperture surrounded by the
6 flanges, and slots between adjacent flanges;
7 supporting the rotatable member with the fixture such that a portion
8 of the member is received in the aperture and the blades extend radially
9 outward from the flanges through the slots defined between the flanges;
10 and
11 using a tool to form the blades to predetermined dimensions.

1 13. A method according to Claim 12 further comprising urging the tool
2 against the blades and rotating the fixture and the rotatable member such
3 that the blades are formed by the tool to the predetermined dimensions.

1 14. A method according to Claim 12 further comprising supporting the
2 tool with a movable turret and adjusting the position of the turret such that
3 the tool forms the blades to the predetermined dimensions.

1 15. A method according to Claim 12 wherein said step of using a tool
2 comprises forming an entire outside profile of the blades while the
3 rotatable member is supported by the fixture.

1 16. A method according to Claim 12 wherein the rotatable member is a
2 boreless compressor wheel.

1 17. A method according to Claim 16 wherein the rotatable member is a
2 boreless compressor wheel.